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THE PLANT DISEASE REPORTER

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The Plant Disease Reporter is issued as a service to plant pathologists throughout the United States. It contains reports, summaries, observations, and comments submitted voluntarily by qualified observers. These reports often are in the form of suggestions, queries, and opinions, frequently purely tentative, offered for consideration or discussion rather than as matters of established fact. In accepting and publishing this material the Division of Mycology and Disease Survey serves merely as an informational clearing house. It does not assume responsibility for the subject matter.

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Incidence of wheat and barley scab in Virginia is reported by S. B. Fenne, page 379. George F. Weber reports scab on Paspalum in Florida. According to Roderick Sprague, true scab is absent from western North Dakota, but black chaff is serious and a number of head molds are common.

Leaf blight is unusually prevalent on field corn in Pennsylvania and Ohio, according to George L. Zundel and C. C. Allison, respectively, p. 379. J. A. Pinckard reports a leaf spot of corn caused by Diplodia macrospora, in Mississippi.

C. A. Suneson reports on the incidence of small grain diseases in the Northwest and Intermountain regions, page 380.

Frank L. Howard reports what seems to be a virus disease on edible soybeans in Rhode Island, page 381. Tobacco ring-spot affected an Indiana planting in 1941, according to R. W. Samson. Additional reports on soybean diseases are given from Virginia and from North Dakota, by S.B.Fenne and by Roderick Sprague. The frog-eye leaf spot is reported from Maryland and from Virginia for the first time, by M. W. Woods and by S. B. Fenne.

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Check list revision, by Freeman Weiss, page 385.

THYRONECTRIA DISEASE OF HONEY LOCUST IN THE SOUTH

Bowen S. Crandall

During a study of persimmon wilt in Tennessee and adjacent States the writer's attention was called to an apparently serious disease of honey locust (Gleditsia triacanthos). Often, on being given a description of the persimmon disease, farmers would state that they had seen it and that the same disease was also attacking their honey locust trees.

The affected honey locust proved to be the victims of a canker disease of the bark of the smaller branches. Typically, cankers range from the size of a pin head to a half inch in diameter. They eventually enlarge or coalesce and girdle the branch. The causal agent also penetrates the vascular system, producing reddish-brown streaking of the outer wood for several inches in each direction from the visible canker. A gummy exudate also occurs on many of the cankers.

In the Tennessee area trees are apparently killed by this disease, probably as a result of the multiple branch infections. Trees in early stages of attack show branches with wilted foliage and dead limbs or branch ends. Later the entire tree is affected gradually and dies. On many areas healthy trees are found adjacent to infected or dying trees. The writer has observed such trees remaining free from infection for a number of consecutive seasons. It is therefore believed that a considerable amount of natural resistance to this disease is present.

From the cankers and streaks in the vascular system a single fungus was isolated, which was identified as Thyronectria austro-americana Seeler. Isolates from Tennessee and Mississippi were submitted to Seeler, who confirmed the identification. The disease is apparently the same as that described by Seeler[1/] from Massachusetts on Gleditsia japonica and G. triacanthos. The writer has observed it throughout middle and western Tennessee and the northern half of Mississippi and Alabama.

The Division of Forest Pathology would like to have seedlings from trees apparently resistant to the Thyronectria disease if the seedlings can be obtained. We will appreciate receiving seed, in any amount, from such trees. Seed should be sent to the writer at the School of Forestry, University of Georgia, Athens, Georgia.

(DIVISION OF FOREST PATHOLOGY, U. S. BUREAU OF PLANT INDUSTRY).

SPERGON AND THIOSAN AS SEED TREATMENTS FOR SMALL GRAINS

R. W. Leukel

Spergon, which in 1941 proved satisfactory as a fungicied for the control of covered kernel smut of sorghum[1/], was tested during the past season as

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1/ Seeler, Edgar V., Jr. Two diseases of Gleditsia caused by a species of Thyronectria. Journ. Arnold Arboretum 21:405-427. 1940.

1/ Leukel, R. W. Spergon as a seed disinfectant for sorghum. U. S. Dept. Agr., Bur. Pl. Indus. Pl. Dis. Rptr. 26(4): 93-94. March 1942.

a preventive for bunt of wheat, loose and covered smuts of oats, and covered smut of barley. It had been planned to include also Thiosan (50% tetramethyl thiuramdisulfide) in these tests, but unfortunately this material was available only for use on the barley.

The experiment on the control of bunt was carried out at the Ft. Hays Experiment Station, Hays, Kansas, through the cooperation of A. F. Swanson. Seed of Tenmarq wheat was inoculated with bunt spores at a 1:100 spore dosage and separate portions were dusted with Spergon and copper carbonate at the rate of 2 ounces per bushel. The treated and untreated seed was sown in the field in rod rows in October 1941. The data on bunt control, taken in June 1942, showed 15% bunt infection in the check rows, a slight trace (2 heads) in the rows from Spergon-treated seed, and none from copper carbonate-treated seed.

The relatively low infection in the controls render the results somewhat inconclusive, but, nevertheless, they indicate that Spergon has possibilities as a fungicide for bunt control.

The only seed immediately available for the experiment on oat smut control was a small lot of Canadian oats naturally infected with both of the oat smuts. Half of this seed was artificially inoculated with spores of covered smut by the partial-vacuum method. The other half received no artificial inoculation. Separate portions of each lot were treated with New Improved Ceresan at the rate of 1/2 ounce per bushel, Spergon at 3 ounces per bushel, formaldehyde, and a mixture of 1 part Ceresan and 3 parts Spergon at the rate of 1 ounce per bushel. This last portion was to have been treated with Thiosan, but this material was not on hand when the oats were treated.

Later, Odessa barley was inoculated with covered smut by the partial-vacuum method and separate portions were treated with New Improved Ceresan at 1/2 ounce per bushel, Spergon, and Thiosan, both at 3 ounces per bushel, and formaldehyde.

The treated and untreated oats and barley were sown in the field in triplicated rod rows at Beltsville, Maryland, April 25, 1942. In addition, 500 seeds of each lot were sown in the greenhouse to secure data on the effect of the treatments on germination. Similar field plantings were made also at four other stations through the helpful cooperation of the following investigators, who also took the data on smut control at their respective stations: W. T. Craig and V. F. Tapke at Ithaca, New York; H. C. Murphy at Ames, Iowa; Harland Stevens at Aberdeen, Idaho; and E. D. Hansing at Manhattan, Kansas. No smut developed in the field plots at Beltsville, Maryland, because of the unfavorable conditions brought about by a heavy snow that fell shortly after the seed was sown. The data on germination obtained in the greenhouse at Beltsville, together with the data on smut control obtained at the 4 other stations are presented in Table 1.

Spergon was fairly effective against oat smut resulting from natural infection but not against the smut induced in oats by artificial inoculation by the partial-vacuum method. Furthermore, E. D. Hansing informed the writer that in more extensive experiments at Manhattan, Kansas, Spergon did not appreciably reduce the percentage of smut in Kanota oats

similarly inoculated. It has been pointed out, however[2] that, in oats, inoculated by the partial-vacuum method, smut is much more difficult to control than in naturally infected seed. Therefore, until Spergon is tested further on oats that carry a heavy natural infection, it should not be eliminated entirely as a possible substitute for oat seed treatments known to be effective.

Although Spergon and Thiosan were not as effective as New Improved Ceresan or formaldehyde in the control of covered smut in Odessa barley, they controlled this disease fairly well and, if better materials are unavailable, they may be considered as suitable substitutes.

Table 1. -Effect of certain seed disinfectants on emergence of oats and barley and on the occurrence of loose and covered smuts of oats and covered smut of barley.

Seed disinfectant	Percentage of heads smutted at -					Percent emergence
	Ithaca, New York	Ames, Iowa	Aberdeen, Idaho	Manhattan, Kansas	All stations	
Oats - naturally infected seed						
Untreated control	3.9	2.3	5.7	11.1	5.8	93
New Improved Ceresan	.0	.0	.0	.2	T[a]	93
Spergon	.1	1.2	.4	.7	.6	95
Formaldehyde[b]	.0	.0	.0	.6	.2	86
Mixture[c]	.0	1.2	.0	.7	.5	95
Oats - artificially inoculated seed						
Untreated control	44.4	6.3	20.3	13.1	21.1	92
New Improved Ceresan	.3	.0	.4	.4	.3	92
Spergon	24.4	4.7	17.5	9.1	13.9	93
Formaldehyde[b]	.0	.0	.0	.5	.1	82
Mixture[c]	.5	.0	.3	.7	.4	86
Barley - artificially inoculated seed						
Untreated control	24.1	5.0	34.8	29.0	23.2	89
New Improved Ceresan	.0	.0	.1	.0	T	96
Spergon	1.1	.2	2.6	1.9	1.5	91
Formaldehyde[d]	.0	.0	.0	.2	T	87
Thiosan	.6	.6	1.6	1.8	.9	87

a/ Trace or less than 0.1 percent.
b/ Seed dipped in a 1:320 solution, drained, covered for 4 hours, washed in running water, and dried thoroughly.
c/ Spergon, 3 parts, and New Improved Ceresan, 1 part.
d/ Seed soaked in 1:320 solution for 1 hour, covered and drained for 1 hour, washed in running water and thoroughly dried.

(DIVISION OF CEREAL CROPS AND DISEASES).

2/ Leukel, R. W. Seed treatment experiments with oats naturally and artificially inoculated with smuts. U. S. Dept. Agr. Techn. Bull. 568. May 1937.

REPORTS ON SCAB OF CEREALS AND GRASSES

BARLEY AND WHEAT SCAB IN VIRGINIA: Much of the barley escaped severe scab (Gibberella saubinetii [= G. zeae]) injury during the spring of 1942, because it was harvested before the wet season began, but wheat suffered considerable damage late in the season. Although very few blasted heads resulted, the disease spread rapidly during the protracted wet weather just before and during harvest. Damage caused by scab was probably considerably less than in 1940, although greater than in 1941. (S. B. Fenne, Extension Plant Pathologist).

SCAB ON PASPALUM NOTATUM IN FLORIDA: Near Gainesville, scab (Fusarium sp.) appears to be more conspicuous on Paspalum notatum this year than previously. There are no extensive plantings of cereal crops except corn in this vicinity. (George F. Weber, Florida Agricultural Experiment Station).

WHEAT AND BARLEY SCAB ABSENT IN WESTERN NORTH DAKOTA: No scab has been located in central and western North Dakota. It has been reported as far west as Valley City, but authentic reports limit it to the usual narrow strip in eastern and southeastern North Dakota. What is locally called scab is mostly black chaff (Bacterium translucens var. undulosum). Black chaff is very serious this year. Regent wheat is particularly hard hit by it. Other conditions attributed to scab on the matured glumes are due to molds such as Alternaria tenuis, Cladosporium herbarum, and Fusarium sporotrichoides, all of which are more or less common this year in areas where rains were heavy.

Our isolations from rootrot material again show that Fusarium graminearum and F. culmorum, scab-causing fungi, are virtually non-existent in western and central North Dakota on cereals and grasses. Sometimes F. graminearum and F. culmorum are isolated from Echinochloa crus-galli which had been growing in ditches. F. culmorum was, however, frequently isolated from the roots of oats and certain grasses in the Palouse region near Pullman, Washington in May of this year. (Roderick Sprague, Division of Cereal Crops and Diseases, Northern Great Plains Field Station, Mandan, N. Dak., Aug. 20).

UNUSUAL OCCURRENCE OF SOME CORN DISEASES

HELMINTHOSPORIUM LEAF BLIGHT ON FIELD CORN: Reports of an unusual amount of damage caused by Helminthosporium turcicum have been received from Pennsylvania and Ohio:

Pennsylvania: Helminthosporium leaf blight will cause loss in our hybrid field corn this year. The destruction is very severe wherever I went this week. Some varieties of field corn hybrids have all of the lower leaves killed and browned so that the fodder will be spoiled for silage purposes. In some cases the ears are drooping owing to the weakening of their stalks. Some of the fields look as though they had been struck with frost and then scorched with fire. I have found the disease

in Adams, Franklin, Cumberland, Dauphin, and Lebanon Counties. I have not been in other counties but am almost sure that it is statewide. (George L. Zundel, Pennsylvania State College. August 22).

Ohio: Helminthosporium turcicum is present in almost all corn fields in the southern half of Ohio. Damage to the fodder will be severe on susceptible hybrids. In some fields the injury will result in spongy corn and a reduction in yield. Extensive damage has developed in corn fields farther north than in 1939 and 1941. (C. C. Allison, Extension Plant Pathologist. August 25).

DIPLODIA MACROSPORA CAUSING LEAF SPOT IN MISSISSIPPI: The leaf spot on corn caused by Diplodia macrospora, specimens of which I sent to you some time ago, has been present on practically every corn plant I have seen in the State. It occurs throughout the entire length and breadth of Mississippi. I am uncertain as to the damage that it is causing as a sheath rot or stalk rot because several other fungi produce confusing symptoms. The leaf spots frequently merge with those due to other causes and in cases of severe firing it is impossible to determine if the Diplodia is responsible. In many instances where the disease can be found without complicated symptoms the leaf area affected ranges from an isolated leaf spot to approximately half of a leaf. The overall damage is probably 10 to 20%. This fungus has been reported on corn leaves from Florida by A. H. Eddins (Phytopath. 20:439). (J. A. Pinckard, State Plant Board of Mississippi. August 24).

CEREAL DISEASES IN THE PACIFIC NORTHWEST AND INTERMOUNTAIN STATES IN 1942

C. A. Suneson

Crop yields in the Northwest and Intermountain region will generally be above average, particularly in central Washington and Oregon.

My survey indicates that there will be considerably more bunt [Tilletia] than in 1941 in both marketing areas. This may be due to: (1) favorable conditions for fall infection, (2) increased acreage of susceptible varieties, and (3) a greater proportion of winter wheat.

Dwarf bunt must be considered the major disease problem in Turkey areas. It was unusually severe in Utah and in Gallatin Valley, [Montana] where recent Ridit hybrid releases, such as C.I. 11599, showed 10 to 30% dwarf bunt in commercial fields. The resistance of Relief and Hymar, among others, is still satisfactory in all dwarf bunt areas, however. Dwarf bunt was observed for the first time in trace to 5% amounts over most of the winter wheat lands of eastern Idaho. In northern Idaho there was less dwarf bunt than in any season since 1937. This may have resulted from virtual elimination of the crop-fallow rotation in this area with increased rainfall.

Flag smut [Urocystis tritici = U. agropyri according to Fischer[1/]] will receive considerable experimental attention in Washington next year.

Loose smut [Ustilago tritici] was general around Twin Falls, [Idaho] with more than 5% seen in one field of Dicklow.

Stripe rust [Puccinia glumarum] was widely distributed in the Northwest and probably damaged White Federation most among commercial wheats. Leaf rust [P. rubigo-vera tritici] was moderately severe from Pullman, [Washington] to Sandpoint, [Idaho] and stem rust [P. graminis] did some damage in this same area. Trace amounts of all three rusts were seen in Utah.

There was much ergot [Claviceps purpurea] in rye in northern Idaho. (DIVISION OF CEREAL CROPS AND DISEASES. AUG. 4, 1942).

REPORTS ON SOYBEAN DISEASES

AN UNDETERMINED, APPARENTLY VIRUS, DISEASE OF EDIBLE SOYBEANS IN RHODE ISLAND: Twenty-four varieties of edible soybeans are being grown in randomized, replicated rows by Mr. Russell E. Larson, olericulturist, at the Rhode Island State Agricultural Experiment Station farm. On August 26 none of the reported bacterial or fungous diseases were found in the plot. However, an outstanding "crinkle" or "rugose" symptom was present. A virus disease is indicated but similar symptoms have not been described on soybean in the literature available. A variety trial of garden peas grew in the adjoining plot earlier in the season and viruses are likely to have been transmitted. While slight symptoms, of the mosaic type Marmor (F. O. Holmes, Handbook of Phytopathogenic Viruses), were present in most of the varieties, the chief symptom complex would place the disease in the generic group, Savoia, and in which Soja max Piper is not listed as a suscept. The relative varietal susceptibility is indicated by the disease index (0-1-2-3-4 from none to very severe) figures as follows:

Early Varieties		Late Varieties	
1. Giant Green	1.0	1. Sousei	1.0
2. Sae	1.0	2. Fuji	1.3
3. Etum	2.0	3. Toku	1.7
4. Goku	2.0	4. Hakote	1.7
5. Tastee	2.3	5. Emperor	1.7
6. Kanum	2.3	6. Hokkaido	2.0
7. Yellow Marvel	2.7	7. Togun	2.0
8. Kanro	2.7	8. Osaya	2.0
9. Bansei	3.0	9. Willami	2.7
10. Chusei	3.0	10. Imperial	3.0
11. Waseda	3.7		

(Frank L. Howard. Rhode Island State College. September 3).

[1/] Fischer, George W. Infection of forage grasses with flag smuts of wheat, rye, and grasses (Urocystis tritici, U. occulta, and U. agropyri, respectively). Abst. Phytopath. 32: 4-5. 1942.

" . . . Urocystis tritici and U. agropyri are practically iden-

TOBACCO RING-SPOT ON EDIBLE SOYBEANS IN INDIANA IN 1941: A high percentage of the plants in a trial planting of vegetable soybeans, near Whiteland, Johnson County, were infected with tobacco ring-spot [virus] in 1941. (R. W. Samson, Purdue University Agricultural Experiment Station).

MORE ABOUT SOYBEAN DISEASES FROM VIRGINIA: I should like to second the request made in the August 15 Reporter for more information on the identity and prevalence of soybean diseases. Every year I see field after field of diseased soybeans affected with bacterial leaf and pod spot, Fusarium wilt, stem rot, root knot, mosaic and what appears to be a nutritional deficiency.

Very little information on the control of soybean diseases is available, and this is also true of the diseases of other forage crops. More research work is badly needed on the diseases of these crops so that farmers may be enabled to employ effective and practical measures for their control. (S. B. Fenne, Extension Plant Pathologist).

SOYBEAN DISEASES IN WESTERN NORTH DAKOTA: In local gardens the edible variety Sioux is subject to bacterial blight ("rust") (Bacterium [Phytomonas] phaseoli), apparently the same form which was so very destructive on snap beans this year. In order to obtain yields of green shell beans from soybean, early seeding is employed and bacterial blight as well as damping-off are serious factors in obtaining stands, particularly when cold wet weather prevails, as it did this year. Fusarium scirpi var. acuminatum and Pythium debaryanum were frequent isolates from garden and field soybeans at Mandan and McCanna, North Dakota, but did not appear to be doing much damage other than adding to pre-emergence injury at Mandan. Field soybeans seeded June 1 at McCanna appeared very healthy on August 12, but obviously would never mature seed. Much needs to be learned about seedling troubles and their effect on time-of-seeding for this area. (Roderick Sprague, Division of Cereal Crops and Diseases. Northern Great Plains Field Station, Mandan, North Dakota. August 20).

TWO NEW RECORDS FOR THE FROG-EYE LEAF SPOT: Specimens of Cercospora diazu Miura have been received from Maryland and Virginia. The disease has not been recorded previously from either State.

Maryland: Affected plants, probably of the Virginia variety, were sent in by the County Agent of Carroll County during August. The disease was said to be severe in the field in which it occurred. (M. W. Woods, University of Maryland College of Agriculture).

[1/ continued from page 381.
tical in their morphology, and it is recommended that they be considered as races of the same species, which, by priority, would bear the name U. agropyri. . . The demonstrated susceptibility of grasses to flag smut of wheat and the morphological identity of this smut with the similar flag smut on grasses suggests a possible explanation of the source of outbreaks of wheat flag smut in the U. S. where flag smut of grasses has long been known from coast to coast on a wide variety of grass species."]

Virginia: I am enclosing a specimen of soybean leaves sent in from Stafford County, near Fredericksburg. The county agent, W. L. Browning, reports that this is a sample of the foliage of a 50-acre field. About 25% of the pods on these plants have dried up. This is the first time I have observed Cercospora on soybeans in Virginia. It very probably has occurred previously but escaped our attention. (S. B. Fenne, Extension Plant Pathologist. September 2).

LATE BLIGHT AND OTHER DISEASES OF POTATOES AND TOMATOES

LATE BLIGHT OF POTATOES IN MARYLAND: Late blight is unusually severe in Garrett County, Maryland, this year. It was first observed late in June and has been increasing in severity ever since that time. When I visited the County during the week of August 24, I found that all potato vines were dead in unsprayed and poorly sprayed fields even where resistant varieties like Sequoia and Sebago were planted. Some blight was present in practically every field in the County and the most thoroughly sprayed fields were free from severe injury. Much tuber rot has been reported in fields which have already been dug and it is estimated that the total loss in the County from combined vine and tuber infection will amount to approximately 40 to 50% of the crop.

In an unsprayed experimental plot several varieties and seedlings were replicated 8 times and the amount of tuber rot was computed by weight in each replication. The average amount of tuber rot by weight in some of the varieties and seedlings was as follows: Pioneer Smooth Rural 0.2%, Sebago 0.1%, Sequoia 5.1%, Seedling B247 0.2%, Seedling 672-5 0.3%, and Seedling 47345 1.3%. (R. A. Jehle, University of Maryland. September 3).

LATE BLIGHT IN SOUTHWEST VIRGINIA: Late blight (Phytophthora infestans) increased very rapidly in Southwest Virginia during August and caused severe damage to late maturing potatoes. It was exceedingly wet during most of August and conditions were ideal for late blight. In many cases the potato vines were completely blighted and dead 2 weeks before their normal maturity. Considerable tuber rot was observed. The leaves and fruits of tomatoes on the experiment station plots at Blacksburg were also affected by the disease. (S. B. Fenne, Extension Plant Pathologist).

LATE BLIGHT IN THE GAINESVILLE SECTION OF FLORIDA: Late blight was previously, that is before this year, not common in gardens in this region. In May and June of 1942 a heavy attack was killing plants and infecting tubers, causing rot, in gardens in Gainesville. (George F.Weber, Florida Agricultural Experiment Station).

POTATO LATE BLIGHT IN OHIO: Late blight of potatoes is present in the early potato crop and more widely spread in the State than ordinarily. Unsprayed fields in the northern part were damaged by late blight. It is appearing in the late potato crop. (C. C. Allison, Extension Plant Pathologist. August 25).

POTATO DISEASES IN WESTERN NORTH DAKOTA: No late blight has been seen on the station yet, although we have had an odorous soft rot of potatoes which is not usually common here. Early blight [Alternaria solani] is prevalent. The potatoes in this area are not in general as good as expected considering the abundant moisture this season. (Roderick Sprague, Division of Cereal Crops and Diseases. Northern Great Plains Field Station, Mandan, North Dakota. August 20).

TOMATO FRUIT ROT AND EARLY BLIGHT IN PENNSYLVANIA: The excessive rain is causing much rotting of tomatoes. They will not ripen to meet U. S. No. 1 grade. One big cannery below Harrisburg has not had any tomatoes yet that can be used for juice. All of the tomatoes are being used for puree. Alternaria [solani] has caused excessive defoliation and in one field anthracnose [Colletotrichum phomoides] was causing damage. (George L. Zundel, Pennsylvania State College. August 22).

TOMATO LEAF SPOTS DESTRUCTIVE IN OHIO: Leaf spots of tomatoes - Septoria [lycopersici] and Alternaria [solani] - are very destructive in the tomato canning section of northwestern Ohio. The plants developed rapidly with abundant foliage, but in many fields nearly all the foliage has been killed by one of these organisms. In tomato fields adequately dusted, or sprayed, the plants have retained most of their foliage. (C. C. Allison, Extension Plant Pathologist. August 25).

NEGATIVE REPORT ON TOMATO TIP BLIGHT: No tomato tip blight [virus] was seen in Minnesota, North Dakota, South Dakota, or Nebraska in the occasional tomato fields examined en route. (G. H. Godfrey, Texas Agricultural Experiment Station. August 19).

BRIEF NOTES ON PLANT DISEASES

FIRE BLIGHT ON PEARS IN FLORIDA: In the vicinity of Gainesville last year, more blight (Bacillus amylovorus) [= Erwinia] appeared than during any year for a decade. The disease was spectacular. This year (1942) has been a repeater for the disease, being very similar to last year. (George F. Weber, Florida Agricultural Experiment Station).

TETRACHLORO-PARA-BENZOQUINONE A GROWTH STIMULANT: George L. McNew reports that Spergon, a commercial product of this compound, acted as a growth stimulant as well as a seed protectant, in experiments with peas. The material was tested in both infested and in steam soil, in comparison with other fungicides. When planted in steam soil, seed treated with Spergon consistently produced larger plants than seed treated with the other materials. It is not known how many kinds of plants will give the same response to treatment with this compound as peas. There is some evidence, but no proof yet, that Lima beans and sweet potatoes may be stimulated. McNew stresses the practical application of this property thus, ". . . Like any other good seed protectant it can increase the yield under severe disease conditions by preventing seed destruction. In addition, it can stimulate plant growth even in the absence of disease. From a practical view-point this is tremendously important. Heretofore, seed treatment has been recommended as a form of crop insurance against disease because it is needed in one of every three or four fields. As a growth stimulant, the material should pay dividends in practically every field, irrespective of disease conditions. . ." (McNew, George L. Growth stimulation of peas by tetrachloro-para-benzoquinone, a fungicidal seed protectant. Science n. s. 96: 118-119. July 31, 1942).

"KURUME YELLOWS" is a plant disease with an important role in Rex Stout's detective novel "Black Orchids".

A CORRECTION: On page 14 of Earle C. Blodgett's report on fruit diseases in Idaho in 1941, in the January 15 issue this year, 4 (a) should read as follows "The diagnosis of the trouble on suspicious trees near Weiser is not certain but symptoms are similar to those of pink fruit." The underlined words were omitted.

CHECK LIST REVISION

Freeman Weiss

SOPHORA (LEGUMINOSAE)

SOPHORA JAPONICA L., JAPANESE PAGODA-TREE. Deciduous tree of E. Asia, grown for ornament and sometimes street planting, Zone IV.

Cytospora sophorae Bres., on twigs. N. H., N. J., N. Y.
Diplodia sophorae Speg. & Sacc., dieback. Ohio.
Microsphaera alni DC. ex Wint., powdery mildew. Conn.
Phymatotrichum omnivorum (Shear) Dug., root rot. Texas.
Nectria cinnabarina Tode ex Fr., twig blight. Conn., N. Y.
Rhizoctonia solani Kühn, damping off. Conn.

SOPHORA SECUNDIFLORA (Cav.) DC., FRIJOLITO, MESCALBEAN. Evergreen shrub or small tree of Growth Regions 11, 16, 17, 20, 30.

Phoradendron flavescens (Pursh) Nutt., mistletoe. Texas.
Phyllosticta sophorae Ell. & Ev., leaf spot. Texas.
Phymatotrichum omnivorum (Shear) Dug., root rot. Texas.

SOPHORA SERICEA Nutt., SILKY SOPHORA. Woody herb of the Great Plains.

Uromyces hyalinus Pk., rust (0, I, III). S. Dak. to Texas, Ariz. and Wyo.

SOPHORA VICIIFOLIA Hance, VETCHLEAF SOPHORA. Deciduous shrub of China, grown for ornament, Zone V.

Heterodera marioni (Cornu) Goodey, root knot. Md.
Phymatotrichum omnivorum (Shear) Dug., root rot. Texas.

SORBUS (ROSACEAE)

SORBUS AMERICANA Marsh., AMERICAN MOUNTAIN-ASH. Including S. DECORA (Sarg.) Schneid., SHOWY M. Small tree of Growth Regions 23, 24, 26, 27; furnishes food for wild life and cult. for ornament, Zone II.

Alternaria sp., Leaf spot. Iowa.
Armillaria mellea Vahl ex Fr., root rot. N. J.
Cytospora spp., canker, dieback. Spp. reported include C. chrysosperma Pers. ex Fr., Minn., Mont., Nebr., N. J., Wash.; C. leucostoma Sacc., Mont.; C. massariana Sacc., Idaho; C. microspora (Cda.) Rabh., Mont.; C. rubescens Fr., Nev. See also Eutypella and Valsa.
Dermatea ariae (Pers. ex Fr.) Tul. (Micropera cotoneastri (Fr.) Sacc.), on twigs. Mich., N. Y., Pa.
Diaporthe impulsa (Cke. & Pk.) Sacc., on branches. Mass., Mich., N.H., N.Y.
Dothiorella pyrenophora Sacc., on branches. Kans., R. I.
Entomosporium maculatum Lév. var. domesticum Sacc., (? Fabraea maculata Atk.), leaf spot. Wis.
Erwinia amylovora (Burrill) Winslow et al., fire blight. Widespread.
Eutypella sorbi (Schm. & Kze.) Sacc. (Cytospora rubescens Fr.), on branches. Mont.
Excipulina pallida (Pk.) Dearn. & House, on branches. N. Y., Wis.
(Fusicladium dendriticum (Wallr.) Fckl. and var. orbiculatum Sacc.): Venturia inaequalis.
Gloeodes pomigena (Schw.) Colby, on twigs. Ind.
Glomerella cingulata (Ston.) Spauld. & Schrenk, branch canker, fruit rot. Ind.
Graphium sorbi Pk., leaf spot. N. Y., Wis.
Gymnosporangium aurantiacum Chev., rust (0, I). Me. to N. J. & Wis. III on Juniperus communis var. depressa.

SORBUS AMERICANA cont.

Gymnosporangium globosum Farl., rust (O, I). N.E. States. III on Juniperus virginiana.
Nectria cinnabarina Tode ex Fr., N. Car.
Nummularia discreta (Schw.) Tul., blister canker. Iowa, Mass., Minn., W. Va.
N. repanda (Fr.) Nits., on branches. Pa.
Phomopsis sp., twig blight. Mass.
Phyllosticta sorbi Westend., leaf spot. Ill., Me., Mo., Okla.
Physalospora obtusa (Schw.) Cke., black rot, canker. Conn. to Va. & Mich.
Phytomonas tumefaciens (EFS. & Town.) Bergey. Conn., N. J.
Polyporus hirsutus Wulf. ex Fr., white heart rot. Mich., Wash.
P. versicolor L. ex Fr., wound rot. Wis.
Pseudopeziza pyri Pk., on leaves. N. Y.
Ramularia destruens Pk., on leaves. N. Y.
(Sphaeronema pallidum Pk.): Excipulina pallida.
Thyridaria sorbi Dearn. & House, on branches. N. Y.
Valsa spp., on twigs & branches, sometimes causing cankers and dieback. Spp. reported include V. leucostoma Pers. ex Fr., Mont., N. Y.; V. massariana DeNot., Idaho; V. sordida Pers. ex Fr., widespread.
Venturia inaequalis (Cke.) Wint. var. cinerascens (Fckl.) Aderh., scab. Ill., Minn., N. Y., Wash.

Erineum, -- epidermal proliferation caused by mites. Alaska.

SORBUS AUCUPARIA L., EUROPEAN MOUNTAIN-ASH. Small tree of Europe and W. Asia, occurring in several botanical vars., cult. for ornament, Zone II, and locally naturalized in the Eastern and Central States.

Cytospora rubescens Fr., trunk canker. Iowa. Conidial stage of Eutypella sorbi.
Entomosporium maculatum Lév., var. cydoniae Sacc., leaf spot. Wis.
Erwinia amylovora (Burr.) Winslow et al., fire blight. N. Y.
Gymnosporangium aurantiacum Chev., rust (O, I). Conn., Mich., N. J.
G. libocedri (P. Henn.) Kern, rust (O,I). Oregon. III on Libocedrus decurrens.
Nummularia discreta (Schw.) Tul., blister canker. Iowa.
Phyllosticta sorbi Westend., leaf spot. Iowa.
Physalospora obtusa (Schw.) Cke., trunk canker. Ind., Ohio.
Phytomonas tumefaciens (EFS. & Town.) Bergey, crown gall. Conn., N. J.
Podosphaera oxyacanthae DC. ex DBy. var. tridactyla Wallr., powdery mildew. Wash.
Septoria sorbi Lasch, leaf spot. Iowa.
Valsa leucostoma Pers. ex Fr., twig blight, canker. Ohio, W. Va.
Venturia inaequalis (Cke.) Wint., scab. Ill.

SORBUS SITCHENSIS Roem., PACIFIC MOUNTAIN-ASH. Including S. OCCIDENTALIS (Wats.) Greene, WESTERN M. Shrubs or small trees of Growth Regions 4 & 12, and sometimes planted for ornament.

Coryneum sorbi Pk., on twigs. Calif.
Cytospora chrysosperma Pers. ex Fr., canker, dieback. Colo., Mont., Nebr.
Diaporthe impulsa (Cke. & Pk.) Sacc., on branches. Calif.
Dothiorella scopulina Dearn. & Barth., on branches. Wyo.
Eutypella sorbi (Schm. & Kze.) Sacc. (Cytospora rubescens Fr.), on branches. Colo., Mont.
Fabraea maculata Atk., leaf blight. Alaska.
Gymnosporangium aurantiacum Chev., rust (O, I). Mont. to Colo., Wash. & Alaska.
G. juniperinum (L.) Mart., rust (O, I). Mont. to Colo., Wash. & Alaska. III on Juniperus communis var. depressa.
G. nelsoni Arth., rust (O, I). Mont., Wash., Wyo. III on Juniperus spp.
G. nootkatense (Trel.) Arth., rust (O, I). Oregon, Wash., Alaska. III on Chamaecyparis nootkatensis.
Nectria cinnabarina Tode ex Fr., twig blight. Alaska.
Phyllosticta globigera Sacc., leaf spot. Idaho, Wash.
Rhabdospora inaequalis Sacc., on twigs. Alaska.
Septoria sitchensis Dearn., leaf spot. Idaho.

(DIVISION OF MYCOLOGY AND DISEASE SURVEY).